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Date.....

**Al Mutanabi School**

**Marks = /50**

## Grade 6 Science

### Chapter 6\_Practice Questions:

- 1- Which is a solution? (1Mark)
  - A. Gold
  - B. Carbon dioxide gas
  - C. Air
  - D. Pure water
  
- 2- What happens to the solubility of sugar in water when we increase temperature of water? (1Mark)
  - A. It stays the same
  - B. It increases
  - C. It decreases
  - D. It does not change
  
- 3- When we say, this solution is neutral, this means it's pH is? (1Mark)
  - A. pH 6
  - B. pH 8
  - C. pH 7
  - D. pH 0
  
- 4- What would you add to a solution with a pH of 3 to obtain a solution with a pH 8? (1Mark)
  - A. Milk (pH 6.4)
  - B. Vinegar (pH 6.4)
  - C. Detergent (pH 10)
  - D. Ammonia (pH 12)
  
- 5- When we add an acid to a neutral solution, its pH number will? (1Mark)
  - A. Increase
  - B. Decrease
  - C. Stay the same
  - D. It will not change
  
- 6- Which can change the solubility of a solid in a liquid? (1Mark)
  - A. Crushing the solute
  - B. Stirring the solute
  - C. Increasing the temperature of the solution
  - D. Increasing the pressure of the solution

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- 7- Solubility and Dissolving is the same thing? (1Mark)
- A. Agree
  - B. Disagree
  - C. Not sure
  - D. May be the same
- 8- What is solubility? (1Mark)
- A. Dissolving any amount of a solute in a solvent at a certain temperature and pressure
  - B. Dissolving a fixed amount of a solute in a solvent at a certain temperature and pressure
  - C. Dissolving the maximum amount of a solute in a solvent at a certain temperature and pressure
  - D. Dissolving the maximum amount of a solute in a solvent
- 9- Which of the following is not the factor that can affect dissolving? (1Mark)
- A. Stirring the solution
  - B. Crushing the solute
  - C. Increasing the temperature
  - D. Adding the solute quickly
- 10- Which ions are present in the greatest amount in a solution with a pH of 8.5? (1Mark)
- A. Hydrogen ions
  - B. Hydronium ions
  - C. Hydroxide ions
  - D. Oxygen ions



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11- Which ions are present in the greatest amount in a solution with a pH of 2.5?  
(1Mark)

- A. Hydrogen ions
- B. Hydronium ions
- C. Hydroxide ions
- D. Oxygen ions

12- Which best describes a solution that contains the maximum dissolved solute?  
(1Mark)

- A. It is a concentrated solution
- B. It is a dilute solution
- C. It is a saturated solution
- D. It is an unsaturated solution

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13- Which best describes a solution that does not contain the maximum dissolved solute? (1Mark)

- A. It is a concentrated solution
- B. It is a dilute solution
- C. It is a saturated solution
- D. It is an unsaturated solution

14- If we have 4 solutions, Pepsi pH 3.5, Lemon Juice pH 2.4, Blood pH 7.4, Drain cleaner pH 13, what is the correct order when we arrange them from most acidic to least acidic? (1Mark)

- A. Drain cleaner pH 13, Blood pH 7.4, Lemon Juice pH 2.4, Pepsi pH 3.5,
- B. Drain cleaner pH 13, Pepsi pH 3.5, Lemon Juice pH 2.4, Blood pH 7.4,
- C. Blood pH 7.4, Pepsi pH 3.5, Lemon Juice pH 2.4, Drain cleaner pH 13
- D. Lemon Juice pH 2.4, Pepsi pH 3.5, Blood pH 7.4, Drain cleaner pH 13



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15- If we dissolve 20 grams of a salt in 0.5L of water, it's concentration will be?  
(1Mark)

- A. 20g/L
- B. 60g/L
- C. 40g/L
- D. 80g/L

16- If we dissolve 20 grams of a salt in 0.25L of water, it's concentration will be?  
(1Mark)

- A. 20g/L
- B. 60g/L
- C. 40g/L
- D. 80g/L

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17- If we dissolve 12 grams of a salt in 0.75L of water, it's concentration will be?  
(1Mark)

- A. 20g/L
- B. 16g/L
- C. 26g/L
- D. 18g/L

18- If the concentration of the solution is 4g/L, how much salt was dissolved in 0.4L  
of water to get this concentration? (1Mark)

- A. 1.2g/L
- B. 1.6g/L
- C. 2.2g/L
- D. 2.6g/L



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19- If we have a solution with a concentration of 5g/L, we added 10 grams of a salt in water; calculate how much water was used? (1Mark)

- A. 2.8L
- B. 1.8L
- C. 2.0L
- D. 2.2L

20- We made a solution by added 2 ingredients, A and B, Ingredient A was in a large amount compared to ingredient B. Which of the following is the correct answer? (1Mark)

- A. Ingredient A is a solute
- B. Ingredient B is a solute
- C. Ingredient A is a solvent
- D. Ingredient B is a solvent

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21- We made a solution by added 2 ingredients, A and B, Ingredient A was in a large amount compared to ingredient B. Which of the following is the correct answer? (1Mark)

- A. Ingredient A is a solute
- B. Ingredient B is a solute
- C. Ingredient A is a solvent
- D. Ingredient B is a solvent

22- Polar solvents like water, best dissolve,,,,? Circle the correct answer to complete the sentence. (1Mark)

- A. Non-polar solutes
- B. Neutral solutes
- C. Polar solutes
- D. All solutes



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23- When we dissolve salts like NaCl in water, the Oxygen (O-) atoms of water are pointed towards. (1Mark)

- A. Chlorine atoms (Cl-)
- B. Sodium atoms (Na+)
- C. No particular direction
- D. Towards the container

24- When we dissolve salts like NaCl in water, the Hydrogen (H+) atoms of water are pointed towards. (1Mark)

- A. Chlorine atoms (Cl-)
- B. Sodium atoms (Na+)
- C. No particular direction
- D. Towards the container

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25- Which one is not true about acids? (1Mark)

- A. Acids produce hydronium ions (H<sub>3</sub>O<sup>+</sup>)
- B. Vinegar is an example of acids
- C. It can damage skin and eyes
- D. They have the bitter taste in food

26- Which one is not true about bases? (1Mark)

- A. Acids produce hydroxide ions (OH<sup>-</sup>)
- B. Ammonia is an example of bases
- C. It can be used to treat heartburn
- D. They do not damage you skin and eyes



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27- What is an indicator? (1Mark)

- A. It is a light which used in cars
- B. it is a compound which has a fixed color and do not change
- C. It is a compound which changed color at different pH values of solution
- D. All above are incorrect

28- These are not used to measure pH of solution? (1Mark)

- A. Ph Testing strips
- B. pH meters
- C. Bromothymol blue solution
- D. Thermometer

29. Which of the following methods can be used by a scientist to increase the solubility of a solution?

- A. Stirring
- B. crushing the solute
- C. closing the solution
- D. heating the solution

30. What would the concentration be of a solution if we were to add 12 grams of salt to 0.2 Liters of water

- a. 15g/l
- b. 0.06gm/l
- c. 0.06g/ml
- d. 6g/l



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31. Choose the correct definition for solubility

- a. the minimum amount solutes a solution can take
- b. the maximum amount of solutes a solution can take
- c. the minimum amount of solvents a solution can take
- d. the maximum amount of solvents a solution can take

32. Choose the correct way how polar molecule solutions combine

- a. polar molecule – non polar molecule
- b. non- polar molecule – non-polar molecule
- c. alkali molecule – base molecule
- d polar molecule – polar molecule

33. Choose the best method of measuring pH

- A. pH meter
- b. pH indicator strips
- c. indicators
- d. measuring tape

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34. How would you describe a acid

- A. a solution that releases hydroxide ions when mixed with water
- B. a solution that releases hydronium ions when mixed with water
- C. a solution that releases water when mixed with hydronium ions
- d. a solution that releases chloride ions when it is mixed with water

35. Suppose we add water to 18grams of washing powder to make a solution with a concentration of 9g/l what would the orginal amount of water be in this concentration

- A. 100ml
- B. 200ml
- C. 153ml'
- D. 162ml





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36. Define solvent

- A. any substance that is a liquid
- B. Any substance that is of the highest quantity in a solution
- C. Any substance that is the least in quantity in a solution
- D. Any substance in a solution

37. Describe to a grade 5 learner what is an indicator

- A. A solution that changes color when heated
- B. a compound that changes color at different pH values when it reacts with acidic or basic solutions
- C. a chemical we use to check swimming pools with
- D. Something we add to check the chlorine levels in water

38. Choose the best description of a solute

- A. All of the parts of solution that is not the solvent
- B. The substance that makes up most of the solution
- C. It is another word for a solution

D. Water is mostly a solute

39. Choose the method that **does not** help to dissolve a solute faster

- A. Stirring the solute
- B. Freezing the solute
- C. Heating the solute
- D. Crushing the solute

40. What is an unsaturated solution.

- A. A solution that can still dissolve more solute at a given temperature or pressure
- B. A solution that cannot dissolve any more solutes at any given temperature or pressure
- C. A solution that can still dissolve more solvents at any given temperature or pressure.
- D. A solution that cannot dissolve more solvents at any given temperature or pressure.



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41. Name of the factors that can affect how much can be dissolved

- A. The quantity of water
- B. heat of the solution
- C. The speed of stirring
- D. The size of the beaker

42. Choose the correct formula for the calculation of concentration

A  $C = \frac{m}{v}$

B.  $C = \frac{v}{m}$

C.  $C = \frac{v}{l}$

D.  $C = \frac{l}{M}$

43. With what states of matter can gas form a solution

- A. Solids
- B. Liquids
- C. Gas
- D. Plasma

44. Which substance on Earth exist naturally in all three states of matter?

- A. Gold
- B. Hydrogen
- C. Carbon dioxide
- D. Water

45. Name one method of calculating concentration

- A. Mass per unit
- B. Mass per volume
- C. Mass size
- D. Mass per weight

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46. What does acid mean?

- A. sweet
- B. sour
- C. salty
- D. bitter

47. Hydronium ions are \_\_\_\_\_ charged

- A. Negative
- B. Neutral
- C. Positive
- D. No charge

48. Hydroxide ions are \_\_\_\_\_ charged

- A. Negative
- B. Neutral
- C. Positive
- D. No charge

49.  $H_3O^+$  ions can \_\_\_\_\_ electricity in water.

- A. Deduct
- B. Conduct
- C. transmit
- D. Relay

50. Water in its natural form has a Ph of \_\_\_\_\_

- A. 4
- B. 9
- C. 7
- D. 1

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